GE
Intelligent Platforms

CRS-C4I-3CC2 COTS Rugged System

Convection Cooled 3U CompactPCI Application Ready Computer

Features

- Rugged convection cooled chassis
  - 4 slot 3U CompactPCI
  - MIL-C-38999 connectors
- Intel® Atom™ @ 1.6 GHz
- Linux® operating system (Microsoft® Windows®, VxWorks® 6.7 also available)
- BIT support
- I/O capabilities
  - Ethernet
  - USB
  - Serial
  - MIL-STD-1553
  - ARINC
  - DAC
  - ADC
  - Discrete
- Designed for:
  - Military and civilian UAVs
  - Ground vehicles
  - Helicopters
  - Military and commercial aircraft

GE Intelligent Platforms' CRS-C4I-3CC2 COTS Rugged System is a packaged pre-validated control computer system with a Freescale-based processor single board computer that provides a rugged and highly flexible computing platform suited for applications requiring rock-solid reliability such as civilian and military UAVs, manned commercial and military aircraft, helicopters, over- and underwater research vessels, ground vehicles, and locomotives.

GE's COTS-based CRS-C4I-3CC2 Application Ready computer system can be deployed in the field as soon as your application is ready, or use the CRS-C4I-3CC2 as a starting point for multiple application specific configurations.

The arduous task of integrating off the shelf boards has already been done for you—shortening your time to project completion. You have one point of contact for all issues and a single part number—not a collection of parts.

The CRS-C4I-3CC2 successfully integrates GE's boards, and modules, drawn from their wide selection of COTS boards, into open modular systems that are tested and qualified for rugged systems deployment. The CRS-C4I-3CC2 contains a fully integrated set of boards and modules designed to fulfill control applications.

GE Intelligent Platforms' Systems Group is fully compliant with AS9100 processes and brings years of experience designing rugged systems to your project. Our world class program management competencies are tailored to help mitigate your risk. GE conducts all design, analysis, manufacturing, and testing in compliance with any system appropriate MIL and industry standards such as MIL-STD-810, 704, 461, 1472, and DO-160.

GE has integrated and tested the CRS-C4I-3CC2 and provides Board Support Packages (BSP's) and drivers that you can easily use to integrate your application and reduce your software development cycle time. To help jump start your project, GE offers Laboratory Development Units, or starter kits, preconfigured for development purposes. Based on the required system controller architecture and bus system, GE can provide the appropriate development system for your specific needs.

GE offers a Product Lifecycle Management (PLM) program of innovative Long-Term Support services to reduce the overall cost of ownership and provide industry-leading safeguards against component obsolescence. GE Intelligent Platforms is committed to supporting customer programs throughout their lifecycle.

The following pages illustrate a subset of the configurations that are available with this system. If you are interested in additional configuration options please contact your sales representative.

CRS-C4I-3CC2 COTS Rugged System

Standard Configurations*	CRS-C4I-3CC2-00	CRS-C4I-3CC2-01	CRS-C4I-3CC2-02	CRS-C4I-3CC2-03
Additional Memory (Flash, SSD, etc.)	NA	SATA - 64 GB	NA	NA
Ethernet Ports	10x 10/100/1000BaseT	2x 10/100/1000BaseT	2x 10/100/1000BaseT	2x 10/100/1000BaseT
Serial Ports	1x RS232 1x RS232/422	1x RS232	1x RS232 12x RS232/422/485	1x RS232
USB Ports	2x USB 2.0	2x USB 2.0	2x USB 2.0	2x USB 2.0
MIL-STD-1553 Channels	NA	1x MIL-STD-1553 Redundant Ch	1x MIL-STD-1553 Redundant Ch 1x RT_ADDR	1x MIL-STD-1553 Redundant Ch 1x RT_ADDR
ARINC 429 Channels	NA	15x ARINC 429 RX Ch 15x ARINC 429 TX Ch	NA	NA
DAC Channels	NA	NA	NA	NA
ADC Channels	NA	NA	NA	NA
CAN Bus	NA	NA	NA	2x CANbus Ch
Discrete I/O	7x GPIO+PRST	7x GPIO+PRST 13x Discrete Ch	7x GPIO+PRST 20x Discrete Ch**	7x GPIO+PRST 12x Discrete Ch**
Other I/O	1x VGA	1x IRIG In/Out 12x HL Discrete(SE) In 8x HL Discrete (SE) Out 6x Discrete (DIFF) In/Out 1x VGA	1x IRIG In/Out 8x HL Discrete(SE) In 8x HL Discrete (SE) Out 4x Discrete (DIFF) In/Out 1x VGA	1x IRIG In/Out 8x HL Discrete(SE) In 8x HL Discrete (SE) Out 4x Discrete (DIFF) In/Out 1x VGA
Power Dissipation (W)	58W	42W	39W	37W
Order Number	920-100848-000	920-100848-001	920-100848-002	920-100848-003

Standard Configurations*	CRS-C4I-3CC2-04	CRS-C4I-3CC2-05	CRS-C4I-3CC2-06	CRS-C4I-3CC2-07
Additional Memory (Flash, SSD, etc.)	NA	NA	NA	NA
Ethernet Ports	10x 10/100/1000BaseT	2x 10/100/1000BaseT	10x 10/100/1000BaseT	2x 10/100/1000BaseT
Serial Ports	1x RS232	1x RS232	1x RS232 12x RS232/422/485	3x RS232 13x RS232/422/485
USB Ports	2x USB 2.0	2x USB 2.0	2x USB 2.0	2x USB 2.0
MIL-STD-1553 Channels	1x MIL-STD-1553 Redundant Ch 1x RT_ADDR	1x MIL-STD-1553 Redundant Ch 1x RT_ADDR	NA	NA
ARINC 429 Channels	NA	NA	NA	NA
DAC Channels	NA	4x DAC Ch	NA	4x DAC Ch
ADC Channels	NA	5x ADC Diff Ch	NA	5x ADC Diff Ch
CAN Bus	NA	NA	NA	NA
Discrete I/O	7x GPIO+PRST 12x Discrete Ch**	7x GPIO+PRST 8x GPIO 12x Discrete Ch**	7x GPIO+PRST	7x GPIO+PRST 8x GPIO
Other I/O	1x IRIG In/Out 8x HL Discrete(SE) In 4x HL Discrete (SE) Out 2x Discrete (DIFF) In/Out 1x VGA	1x IRIG In/Out 12x HL Discrete(SE) In 4x HL Discrete (SE) Out 4x Discrete (DIFF) In/Out 1x VGA 3x RTD Ch	8x HL Discrete(SE) In 4x HL Discrete (SE) Out 2x Discrete (DIFF) In/Out 8x Discrete 1x VGA	12x HL Discrete(SE) In 4x HL Discrete (SE) Out 4x Discrete (DIFF) In/Out 1x VGA 5x RTD Ch
Power Dissipation (W)	68W	38W	67W	38W
Order Number	920-100848-004	920-100848-005	920-100848-006	920-100848-007

CRS-C4I-3CC2 COTS Rugged System

Standard Configurations*	CRS-C4I-3CC2-08	CRS-C4I-3CC2-09	CRS-C4I-3CC2-10
Additional Memory (Flash, SSD, etc.)	SATA - 64 GB	NA	SATA - 64 GB
Ethernet Ports	2x 10/100/1000BaseT	2x 10/100/1000BaseT	10x 10/100/1000BaseT
Serial Ports	1x RS232 12x RS232/422/485	1x RS232 12x RS232/422/485	1x RS232
USB Ports	2x USB 2.0	2x USB 2.0	2x USB 2.0
MIL-STD-1553 Channels	NA	NA	1x MIL-STD-1553 1x RT_ADDR
ARINC 429 Channels	NA	NA	NA
DAC Channels	NA	4x DAC Ch	NA
ADC Channels	NA	5x ADC Diff Ch	NA
CAN Bus	2x CANBus Ch	2x CANBus Ch	NA
Discrete I/O	7x GPIO+PRST	7x GPIO+PRST	7x GPIO+PRST, 12x Discrete Ch**
Other I/O	1x IRIG In/Out 8x HL Discrete(SE) In 8x HL Discrete (SE) Out 4x Discrete (DIFF) In/Out 8x Discrete 1x VGA	12x HL Discrete(SE) In 4x HL Discrete (SE) Out 4x Discrete (DIFF) In/Out 1x VGA 5x RTD Ch	1x IRIG In/Out; 8x HL Discrete (SE) In; 4x HL Discrete (SE) Out; 2x Discrete (DIFF) In/Out; 1x VGA
Power Dissipation (W)	38W	36W	69W
Order Number	920-100848-008	920-100848-009	920-100848-010

* Contact factory for additional modification options. ** An additional 6 Discrete channels are available if the RT_ADDR channel is not used.
SE = Single Ended, HL = High Level, DIFF = Differential, PRST = Pushbutton Reset

CRS-C4I-3CC2 COTS Rugged System

Specifications: All Systems

Processor
- Intel Atom @ 1.6 GHz

SBC RAM
- 1 GB with ECC

SBC Flash Memory
- 4 GB

Operating System
- Linux, VxWorks 6.7, Windows Embedded

Cooling
- Convection

Form Factor
- 3U CPCI

Slots
- 4

Dimensions (H x W x D, excludes connectors)
- 4.90 x 4.66 x 8.39 (inches); 12.45 x 11.84 x 21.31 (cm)

Weight
- 7.5 lbs (3.4 kg)

Input Power (MIL-STD)
- 28V DC nominal (MIL-STD-704E)

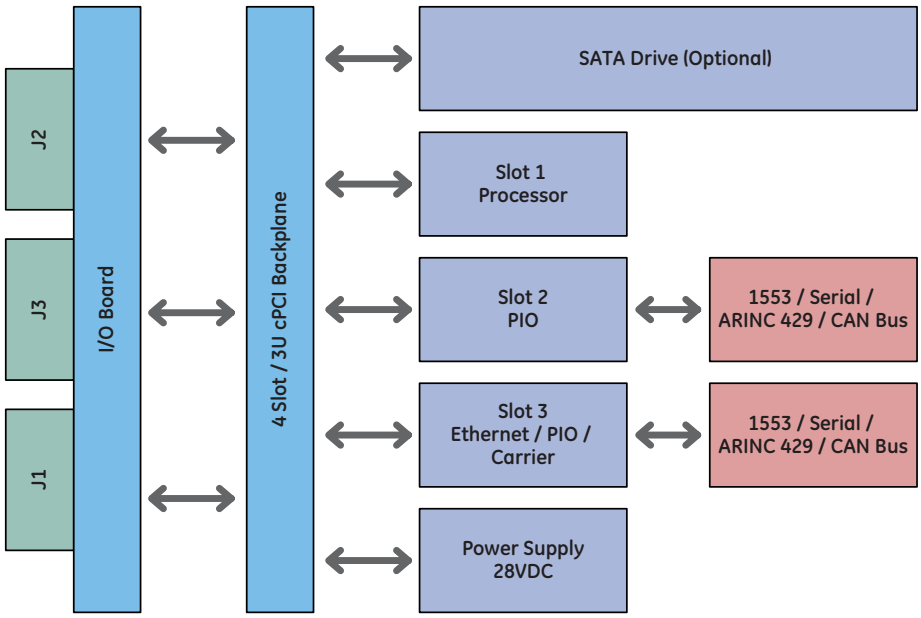
Operating Temperature Range
- -40° C to +50° C (qual. -40° C to +60° C)

Shock (operational)
- +40g SRS (MIL-STD-810G/1)
  (DO-160Category B)

Random Vibration
- 0.1g2/Hz, 15-1000Hz; 6dB/octave decrease, 1000-2000Hz (MIL-STD-810F/1, Method 514.5)
  (DO-160 Category S1/2, Zone2, Curve E)

Humidity
- 95% non-condensing
  (DO-160 Procedure 6, Category B)

Block Diagram



About GE Intelligent Platforms

GE Intelligent Platforms is a General Electric (NYSE: GE) company, headquartered in Charlottesville, VA and part of GE Energy Management. The company's Military/Aerospace business, headquartered in Huntsville, AL, and Towcester, England, provides one of the industry's broadest ranges of high performance, rugged, SWaP-optimized embedded computing platforms. Backed by programs that provide responsive customer support and minimize long term cost of ownership for multi-year programs, GE's solutions are designed to help customers minimize program risk and cost, and to speed time-to-market. For more information, visit defense.ge-ip.com.

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